Maryland HIV/AIDS Epidemiological Profile

Third Quarter 2012

Data reported through September 30, 2012

Center for HIV Surveillance, Epidemiology and Evaluation
Infectious Disease Bureau
Prevention and Health Promotion Administration
Maryland Department of Health and Mental Hygiene
http://ideha.dhmh.maryland.gov/oideor/chse
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Section I – Background Information

HIV/AIDS Reporting Requirements

The Maryland HIV/AIDS Reporting Act of 2007 went into effect on April 24, 2007. The law expanded HIV/AIDS reporting and required that HIV cases be reported by name. The following highlights the reporting requirements of Health-General Articles 18-201.1, 18-202.1, and 18-205 of the Annotated Code of Maryland, as specified in COMAR 10.18.02.

- Physicians are required to report patients in their care with diagnoses of HIV or AIDS immediately to the Local Health Department where the physician's office is located by mailing DHMH Form 1140. Reports are also accepted by phone.

- Physicians are required to report infants born to HIV positive mothers within 48 hours to the State Health Department by mailing DHMH Form 1140. Reports are also accepted by phone.

- Clinical and infection control practitioners in hospitals, nursing homes, hospice facilities, medical clinics in correctional facilities, inpatient psychiatric facilities, and inpatient drug rehabilitation facilities are required to report patients in the care of the institution with diagnoses of HIV or AIDS within 48 hours to the Local Health Department where the institution is located by mailing DHMH Form 1140. Reports are also accepted by phone. Facilities with large volumes are encouraged to contact the State Health Department to establish electronic reporting.

- Laboratory directors are required to report patients with laboratory results indicating HIV infection (e.g., positive confirmatory HIV diagnostic tests, all CD4 immunological tests, all HIV viral load tests, and all HIV genotype and phenotype tests) within 48 hours to the Local Health Department where the laboratory is located, or if out of state to the Maryland State Health Department, by mailing DHMH Form 4492. Laboratories are encouraged to contact the State Health Department to establish electronic reporting.

Reporting forms and instructions are available at: http://ideha.dhmh.maryland.gov/chse/reporting-material.aspx

For Assistance with HIV/AIDS Reporting

For assistance with reporting, including establishment of routine, electronic, or other alternate methods of reporting to the Health Department, please contact the Center for HIV Surveillance, Epidemiology and Evaluation at the Maryland Department of Health and Mental Hygiene (410-767-5061).

Limitations in the HIV/AIDS Data

This epidemiological profile only contains data for HIV and AIDS cases that have been diagnosed by a health care provider, were reported to the health department by name, and were residents of Maryland at the time of diagnosis. Nationally, it has been estimated that 20% of people living with HIV infection are undiagnosed. In addition, despite a massive effort during which over 17,000 HIV cases were reported after the Maryland HIV reporting law changed on April 24, 2007, not all diagnosed HIV cases previously reported by Maryland's code-based identifier were located and re-reported by name, so the number of living HIV cases is lower than previously reported. In addition, many of the re-reported HIV cases were identified by a recent diagnosis and not by their earliest diagnosis, resulting in an under-reporting of HIV diagnoses before 2001 and an over-reporting of HIV diagnoses from 2001 to 2008. Caution should be exercised in using the number of living HIV cases without AIDS and in interpreting trends in the number of reported HIV diagnoses. In addition, the laboratory data are only available for cases receiving medical care, usually only at facilities in Maryland, and only includes test results that have been reported to the health department.

Stages of a Case of HIV/AIDS

Untreated HIV disease progresses from HIV infection to AIDS to death. These are biological events that occur whether or not a person receives any medical care. For example, a person can be HIV infected but never have an HIV test and so they do not have an HIV diagnosis. A medical provider diagnoses that these biological events have occurred and records them as a medical event. The law requires medical providers to report these medical events to the Health Department, thereby creating a surveillance event.

Time Point	Biological Event	Medical Event	Surveillance Event
1	HIV Infection		
2		HIV Diagnosis	
3			HIV Report
4	AIDS Conditions		
5		AIDS Diagnosis	
6			AIDS Report
7	Death		
8		Death Diagnosis	
9			Death Report

A case of HIV/AIDS can only move through time in one direction, from HIV infection to death report [from time point 1 to time point 9], but may skip over individual stages. Events can occur simultaneously, but usually there is a time lag between them. The time lag between events can be measured in days, months, and years.

For example, the time between HIV infection [time point 1] and the test that diagnoses HIV [time point 2] may be several years, and it may then take several days for the laboratory and physician to report the diagnosis to the health department [time point 3]. In a second example, a person with diagnosed and reported HIV infection [time point 3] may die [time point 7] without developing AIDS, thereby skipping the three AIDS events (conditions, diagnosis, and report [time points 4, 5 and 6]). And in a third example, a person with undiagnosed HIV infection [time point 1] may become sick, enter the hospital, and die [time point 7] of what is later determined to be AIDS. In that situation, HIV diagnosis [time point 2], AIDS diagnosis [time point 5], and death diagnosis [time point 8] would all occur at the same time, and that would probably be many years after the initial HIV infection [time point 1].

Changes in Case Terminology

The terminology for HIV and AIDS cases was changed from earlier epidemiological profiles to be more precise, with Reported Diagnoses replacing Incidence and Living Cases replacing Prevalence. Incidence is a measure of the number of new events (such as HIV infections) in a population during a period of time. Prevalence is a measure of the number of people living with a condition (such as HIV) in a population at a certain time. Prevalence includes both new and old cases. For HIV, Incidence and Prevalence cannot be directly measured and must be estimated using statistical methods. The HIV surveillance system is able to provide the actual number of diagnoses and deaths that are reported in the population.

For this epidemiological profile, the reports received through a certain time (the end of the first quarter) are used to generate the number of diagnoses during the prior years. This one year lag allows for delays in reporting and time to complete investigations. For example, the Reported HIV Diagnoses for 10/1/2010-9/30/2011 are the total of the reported HIV cases with or without an AIDS diagnosis, diagnosed with HIV during 10/1/2010-9/30/2011, as reported by name through 9/30/2012.

To calculate the number of Living Cases we count up all of the Reported Diagnoses from the beginning of the epidemic (all the new cases each year) and subtract all of the Reported Deaths. For example, the Total Living HIV Cases on 9/30/2011 are the total of the reported HIV Cases with or without an AIDS diagnosis and not reported to have died as of 9/30/2011 as reported by name through 9/30/2012.

Changes in this Epidemiological Profile

This quarterly update to the Maryland HIV/AIDS Epidemiological Profile contains only the five tables of adult/adolescent cases by jurisdiction. The full set of tables and figures by demographics and other descriptive variables will be available in the year-end fourth quarter report.

Laboratory Data

CD4 tests are measures of a person's immune system function. An HIV infected person is considered to have AIDS if they have less than 200 CD4 cells per microliter of blood. Viral load (VL) tests are measures of the amount of HIV in a person's body. The goal of HIV treatment is to have a very low number of copies of virus per milliliter of blood, below what the test can measure, which is called an undetectable level. Treatment recommendations are that a person in HIV medical care should have their CD4 and VL levels measured at least 2-3 times per year. We use the presence of these lab tests as an indicator that someone has been linked to care after diagnosis or is "in care".

Sources of Data

Information on HIV and AIDS diagnoses, including residence at diagnosis, vital status, and CD4 and HIV viral load test results are from the Maryland Department of Health and Mental Hygiene's Enhanced HIV/AIDS Reporting System (eHARS), September 30, 2012.

Population data are from the Maryland Department of Planning's inter-censal population estimates for July 1, 2011.

Section II – Adult/Adolescent Cases by Jurisdiction

Table 1 – Adult/Adolescent HIV Cases by Jurisdiction, Diagnoses during 10/1/2010-9/30/2011

Age 13+ Population Estimate for 7/1/11, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis, Diagnosed with HIV during 10/1/2010-9/30/2011 (Adult/Adolescent Reported HIV Diagnoses), Number and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a First Reported CD4 Test Result in the 12 Months following HIV Diagnosis (First CD4 Test Result) and Median Count of the First CD4 Test Results, Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with a Reported CD4 Test Result or a Reported HIV Viral Load Test Result in the 3 Months following HIV Diagnosis (Linked to Care), and Percent by Jurisdiction of Adult/Adolescent Reported HIV Diagnoses with an AIDS Diagnosis in the 12 Months following HIV Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at HIV Diagnosis, as Reported by Name through 9/30/2012

JURISDICTION OF RESIDENCE AT HIV DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported HIV Diagnoses							
		No.	% of Total	Rate	First CD4 Test Result			% Linked to Care	% Late HIV Diagnosis
	No.				No. with Test	% with Test	Median Count		
Allegany	65,425	2	0.2%	3.1	***	***	***	***	***
Anne Arundel	454,211	57	4.4%	12.5	45	78.9%	330	84.2%	33.3%
Baltimore City	520,768	402	31.0%	77.2	291	72.4%	355	69.4%	27.1%
Baltimore	684,437	179	13.8%	26.2	135	75.4%	341	72.1%	30.7%
Calvert	74,035	6	0.5%	8.1	4	66.7%	***	***	***
Caroline	27,145	5	0.4%	18.4	4	80.0%	***	***	***
Carroll	140,329	3	0.2%	2.1	***	***	***	***	***
Cecil	84,250	6	0.5%	7.1	4	66.7%	***	***	***
Charles	122,835	20	1.5%	16.3	17	85.0%	241	70.0%	40.0%
Dorchester	27,557	6	0.5%	21.8	5	83.3%	258	50.0%	33.3%
Frederick	195,682	12	0.9%	6.1	8	66.7%	310	66.7%	25.0%
Garrett	25,709	0	0.0%	0.0	--	--	--	--	--
Harford	205,356	21	1.6%	10.2	13	61.9%	475	66.7%	23.8%
Howard	241,940	24	1.9%	9.9	15	62.5%	500	62.5%	8.3%
Kent	17,677	3	0.2%	17.0	***	***	***	***	***
Montgomery	821,219	153	11.8%	18.6	120	78.4%	273	63.4%	37.3%
Prince George's	723,544	298	23.0%	41.2	220	73.8%	281	63.1%	35.6%
Queen Anne's	40,551	3	0.2%	7.4	***	***	***	***	***
Saint Mary's	87,631	3	0.2%	3.4	***	***	***	***	***
Somerset	23,135	4	0.3%	17.3	***	***	***	***	***
Talbot	32,902	5	0.4%	15.2	4	80.0%	***	***	***
Washington	124,366	15	1.2%	12.1	15	100.0%	255	80.0%	66.7%
Wicomico	83,166	13	1.0%	15.6	12	92.3%	250	92.3%	53.8%
Worcester	45,100	5	0.4%	11.1	5	100.0%	123	60.0%	60.0%
Corrections	--	51	3.9%	--	40	78.4%	426	80.4%	23.5%
TOTAL	4,868,970	1,296	100.0%	26.6	972	75.0%	321	68.8%	31.8%

*** Data withheld due to low population and/or case counts

Table 2 – Adult/Adolescent AIDS Cases by Jurisdiction, Diagnoses during 10/1/2010-9/30/2011

Age 13+ Population Estimate for 7/1/11, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with an AIDS Diagnosis, Diagnosed with AIDS during 10/1/2010-9/30/2011 (Adult/Adolescent Reported AIDS Diagnoses), and Average Years from HIV Diagnosis to AIDS Diagnosis, and Percent by Jurisdiction of Adult/Adolescent Reported AIDS Diagnoses with an HIV Diagnosis in the 12 Months preceding AIDS Diagnosis (Late HIV Diagnosis), by Jurisdiction of Residence at AIDS Diagnosis, as Reported by Name through 9/30/2012

JURISDICTION OF RESIDENCE AT AIDS DIAGNOSIS	Population Age 13+	Adult/Adolescent Reported AIDS Diagnoses				
	No.	No.	% of Total	Rate	Years from HIV Diagnosis	% Late HIV Diagnosis
Allegany	65,425	1	0.1%	1.5	***	***
Anne Arundel	454,211	48	6.4%	10.6	2.9	54.2%
Baltimore City	520,768	261	34.8%	50.1	4.5	38.7%
Baltimore	684,437	135	18.0%	19.7	4.0	48.9%
Calvert	74,035	1	0.1%	1.4	***	***
Caroline	27,145	3	0.4%	11.1	***	***
Carroll	140,329	2	0.3%	1.4	***	***
Cecil	84,250	2	0.3%	2.4	***	***
Charles	122,835	9	1.2%	7.3	1.4	88.9%
Dorchester	27,557	6	0.8%	21.8	6.6	50.0%
Frederick	195,682	3	0.4%	1.5	***	***
Garrett	25,709	0	0.0%	0.0	--	--
Harford	205,356	15	2.0%	7.3	4.9	46.7%
Howard	241,940	6	0.8%	2.5	0.9	66.7%
Kent	17,677	0	0.0%	0.0	--	--
Montgomery	821,219	62	8.3%	7.5	1.0	79.0%
Prince George's	723,544	143	19.0%	19.8	2.8	65.0%
Queen Anne's	40,551	4	0.5%	9.9	***	***
Saint Mary's	87,631	2	0.3%	2.3	***	***
Somerset	23,135	3	0.4%	13.0	***	***
Talbot	32,902	2	0.3%	6.1	***	***
Washington	124,366	13	1.7%	10.5	3.0	69.2%
Wicomico	83,166	9	1.2%	10.8	3.0	66.7%
Worcester	45,100	3	0.4%	6.7	***	***
Corrections	--	18	2.4%	--	6.4	38.9%
TOTAL	4,868,970	751	100.0%	15.4	3.6	53.0%

*** Data withheld due to low population and/or case counts

Table 3 – Adult/Adolescent HIV Cases by Jurisdiction, Alive on 9/30/2011

Age 13+ Population Estimate for 7/1/11, Number, Percent of Total, and Rate per 100,000 Population of Reported Adult/Adolescent HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 9/30/2011 (Adult/Adolescent Living HIV Cases without AIDS, Living HIV Cases with AIDS, and Total Living HIV Cases), and Ratio of People per Case (1 case in every X people) for Total Living HIV Cases, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 9/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Population Age 13+	Adult/Adolescent Living HIV Cases without AIDS			Adult/Adolescent Living HIV Cases with AIDS			Adult/Adolescent Total Living HIV Cases			
	No.	No.	% of Total	Rate	No.	% of Total	Rate	No.	% of Total	Rate	Ratio (1 in X)
Allegany	65,425	37	0.3%	56.6	40	0.2%	61.1	77	0.3%	117.7	849
Anne Arundel	454,211	451	3.5%	99.3	663	3.8%	146.0	1,114	3.6%	245.3	407
Baltimore City	520,768	5,716	44.0%	1,097.6	7,543	42.9%	1,448.4	13,259	43.4%	2,546.0	39
Baltimore	684,437	1,189	9.2%	173.7	1,627	9.3%	237.7	2,816	9.2%	411.4	243
Calvert	74,035	43	0.3%	58.1	57	0.3%	77.0	100	0.3%	135.1	740
Caroline	27,145	30	0.2%	110.5	28	0.2%	103.1	58	0.2%	213.7	468
Carroll	140,329	61	0.5%	43.5	67	0.4%	47.7	128	0.4%	91.2	1,096
Cecil	84,250	50	0.4%	59.3	63	0.4%	74.8	113	0.4%	134.1	745
Charles	122,835	161	1.2%	131.1	166	0.9%	135.1	327	1.1%	266.2	375
Dorchester	27,557	36	0.3%	130.6	75	0.4%	272.2	111	0.4%	402.8	248
Frederick	195,682	125	1.0%	63.9	155	0.9%	79.2	280	0.9%	143.1	698
Garrett	25,709	3	0.0%	11.7	4	0.0%	15.6	7	0.0%	27.2	3,672
Harford	205,356	152	1.2%	74.0	224	1.3%	109.1	376	1.2%	183.1	546
Howard	241,940	192	1.5%	79.4	218	1.2%	90.1	410	1.3%	169.5	590
Kent	17,677	14	0.1%	79.2	19	0.1%	107.5	33	0.1%	186.7	535
Montgomery	821,219	1,327	10.2%	161.6	1,842	10.5%	224.3	3,169	10.4%	385.9	259
Prince George's	723,544	2,465	19.0%	340.7	3,315	18.8%	458.2	5,780	18.9%	798.8	125
Queen Anne's	40,551	15	0.1%	37.0	33	0.2%	81.4	48	0.2%	118.4	844
Saint Mary's	87,631	43	0.3%	49.1	59	0.3%	67.3	102	0.3%	116.4	859
Somerset	23,135	20	0.2%	86.4	29	0.2%	125.4	49	0.2%	211.8	472
Talbot	32,902	26	0.2%	79.0	32	0.2%	97.3	58	0.2%	176.3	567
Washington	124,366	160	1.2%	128.7	145	0.8%	116.6	305	1.0%	245.2	407
Wicomico	83,166	105	0.8%	126.3	119	0.7%	143.1	224	0.7%	269.3	371
Worcester	45,100	32	0.2%	71.0	48	0.3%	106.4	80	0.3%	177.4	563
Corrections	--	531	4.1%	--	1,016	5.8%	--	1,547	5.1%	--	--
TOTAL	4,868,970	12,984	100.0%	266.7	17,587	100.0%	361.2	30,571	100.0%	627.9	159

Table 4 – CD4 Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 9/30/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 9/30/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported CD4 Test Result in the Previous 12 Months (Recent CD4 Test Result), and Median Count in Cells per Microliter and Percent Distribution by Jurisdiction of Counts for the Last Recent CD4 Test Results, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 9/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases							
	No.	Recent CD4 Test Result						
		No. with Test	% with Test	Median Count	<200	200-349	350-499	500+
Allegany	77	47	61.0%	642	12.8%	10.6%	12.8%	63.8%
Anne Arundel	1,114	479	43.0%	433	20.7%	19.0%	19.8%	40.5%
Baltimore City	13,259	5,754	43.4%	436	18.7%	19.7%	20.3%	41.3%
Baltimore	2,816	1,273	45.2%	434	20.6%	19.9%	16.7%	42.9%
Calvert	100	36	36.0%	364	22.2%	22.2%	16.7%	38.9%
Caroline	58	18	31.0%	538	16.7%	11.1%	22.2%	50.0%
Carroll	128	41	32.0%	425	9.8%	24.4%	24.4%	41.5%
Cecil	113	24	21.2%	392	12.5%	29.2%	29.2%	29.2%
Charles	327	99	30.3%	411	22.2%	18.2%	19.2%	40.4%
Dorchester	111	41	36.9%	414	24.4%	19.5%	19.5%	36.6%
Frederick	280	114	40.7%	498	14.9%	11.4%	23.7%	50.0%
Garrett	7	1	14.3%	***	***	***	***	***
Harford	376	157	41.8%	435	19.1%	21.7%	15.9%	43.3%
Howard	410	152	37.1%	558	15.1%	15.1%	15.1%	54.6%
Kent	33	13	39.4%	531	***	***	***	***
Montgomery	3,169	1,002	31.6%	456	15.0%	17.7%	25.0%	42.4%
Prince George's	5,780	1,800	31.1%	417	22.3%	17.4%	20.9%	39.4%
Queen Anne's	48	21	43.8%	280	38.1%	19.0%	19.0%	23.8%
Saint Mary's	102	31	30.4%	429	25.8%	19.4%	9.7%	45.2%
Somerset	49	15	30.6%	300	13.3%	46.7%	20.0%	20.0%
Talbot	58	23	39.7%	478	21.7%	8.7%	21.7%	47.8%
Washington	305	136	44.6%	486	14.7%	19.9%	16.2%	49.3%
Wicomico	224	78	34.8%	341	30.8%	20.5%	14.1%	34.6%
Worcester	80	27	33.8%	441	25.9%	18.5%	11.1%	44.4%
Corrections	1,547	754	48.7%	405	21.0%	20.2%	19.5%	39.4%
TOTAL	30,571	12,134	39.7%	433	19.4%	19.1%	20.1%	41.5%

*** Data withheld due to low population and/or case counts

Table 5 – HIV Viral Load Testing for Adult/Adolescent HIV Cases by Jurisdiction, Alive on 9/30/2011

Number of Adult/Adolescent Reported HIV Cases, Age 13+ at HIV Diagnosis, with or without an AIDS Diagnosis and Not Reported to Have Died as of 9/30/2011 (Adult/Adolescent Total Living HIV Cases), Number and Percent by Jurisdiction of Adult/Adolescent Total Living HIV Cases with a Reported HIV Viral Load Test Result in the Previous 12 Months (Recent Viral Load Test Result), Percent by Jurisdiction of the Last Recent Viral Load Test Results that were Undetectable, and the Median Detectable Result in Copies per Milliliter, by Jurisdiction of Residence at the Latter of HIV or AIDS Diagnosis, as Reported by Name through 9/30/2012

JURISDICTION OF RESIDENCE AT DIAGNOSIS	Adult/Adolescent Total Living HIV Cases				
	No.	Recent Viral Load Test Result			
		No. with Test	% with Test	% Un-detectable	Median Detectable
Allegany	77	46	59.7%	65.2%	4,884
Anne Arundel	1,114	429	38.5%	37.3%	821
Baltimore City	13,259	4,802	36.2%	38.1%	1,258
Baltimore	2,816	1,128	40.1%	38.7%	953
Calvert	100	37	37.0%	62.2%	18,595
Caroline	58	19	32.8%	42.1%	4,079
Carroll	128	44	34.4%	43.2%	123
Cecil	113	14	12.4%	50.0%	7,612
Charles	327	95	29.1%	40.0%	2,349
Dorchester	111	37	33.3%	45.9%	2,830
Frederick	280	98	35.0%	55.1%	98
Garrett	7	1	14.3%	***	***
Harford	376	167	44.4%	47.3%	541
Howard	410	148	36.1%	52.0%	436
Kent	33	10	30.3%	***	223
Montgomery	3,169	1,005	31.7%	61.8%	959
Prince George's	5,780	1,792	31.0%	50.1%	2,142
Queen Anne's	48	17	35.4%	35.3%	23,916
Saint Mary's	102	32	31.4%	34.4%	890
Somerset	49	16	32.7%	31.3%	6,312
Talbot	58	18	31.0%	61.1%	1,970
Washington	305	133	43.6%	72.2%	2,083
Wicomico	224	78	34.8%	38.5%	6,643
Worcester	80	21	26.3%	57.1%	1,316
Corrections	1,547	685	44.3%	45.4%	1,694
TOTAL	30,571	10,870	35.6%	44.0%	1,256

*** Data withheld due to low population and/or case counts